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RECENT PUBLICATIONS.

Sur l'Intégration des Equations Différentielles dans le Problèmes de Mécanique:—Application de la Méthode de M. Hamilton au Calcul des Perturbations de Jupiter. Par M. Houel, Professeur de Mathématiques au Lycée à Alençon. Paris, 1855.

In the first of these papers the author has developed the general method of dynamics proposed by Sir William Hamilton in two papers published in the *Philosophical Transactions* for 1834 and 1835, taking into consideration the subsequent extensions by Jacobi. In the course of his investigation the author has demonstrated several general theorems of Celestial Mechanics, including the theorem of the invariability of the mean distances, taking into account all the terms of the order of the cube of the disturbing force.

The second paper contains an application of Sir William Hamilton's method to the computation of the mutual perturbations of *Jupiter* and *Saturn*. In the course of his labours the author has obtained several important corrections to the numerical results relative to the same subject, given by M. Pontécoulant in his *Théorie Analytique du Système du Monde.*

Astronomical and Meteorological Observations made at the Radcliffe Observatory, Oxford, in the Year 1857. Under the Superintendence of Manuel J. Johnson, M.A., Radcliffe Observer, vol. xviii., Oxford, 1859.

This volume, the sheets of which were passing through the press at the time of the death of its lamented author, contains the usual observations with the transit instrument and meridian circle. These are followed by a catalogue of the stars observed in the year 1857, showing the result of every observation. The number of stars in the catalogue is 1398. The volume closes with a very full account of the meteorological operations executed at the observatory in the course of the year.

Almanaque Nautico para 1860, *Calculado de orden de S. M. en el Observatorio de Marina de la Ciudad de San Fernando.* Cadiz, 1858.

This volume contains two useful graphic representations of the path of the moon's shadow on the occasion of the total

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eclipse of the sun which is to occur on the 18th of July, 1860. The first of these relates to the track of the shadow on the surface of the earth in general; the second is specially designed to exhibit the circumstances of its passage over the Spanish territory.

Note sur la Comète de Donati. Par M. le Professeur E. Plantamour. (Tiré des Archives des Sciences de la Bibliothèque Universelle de Genève.)

This pamphlet, embodying Professor Plantamour's observations of Donati's comet, forms a useful accession to the materials of a similar character which have already been published. The determinations of the position of the comet extend from August 28 to October 18. There are some valuable drawings of the physical phenomena exhibited by the comet during the period of its greatest splendour.

Professor Mädler has recently published a pamphlet containing some details relative to the total eclipse of the sun which is to occur on the 18th of July, 1860. The circumstances of the eclipse are rigorously calculated for 112 positions in Spain, Portugal, and Algiers, the places of the sun and moon being derived from an ephemeris computed by Prof. Wolfers from the Solar Tables of Hansen and Olufsen, and the Lunar Tables of Hansen. The author has given a graphic representation of the same results, and in another figure he has exhibited the aspect which the heavens may be expected to offer at the city of Saragossa during the totality of the eclipse. Besides the planets *Mercury*, *Venus*, *Jupiter*, and *Saturn*, it contains all the stars of the first two magnitudes, and several of the third magnitude which will then be above the horizon. The four planets will be situate very near to the sun in the form of a rhomboid. The stars *Regulus*, *Procyon*, *Sirius*, *α* and *β Orionis*, *Castor*, *Pollux*, *Capella*, *Aldebaran*, *Vega*, *Arcturus*, and *Spica Virginis*, will all be above the horizon. Professor Mädler's paper contains some useful suggestions for observing the eclipse.

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